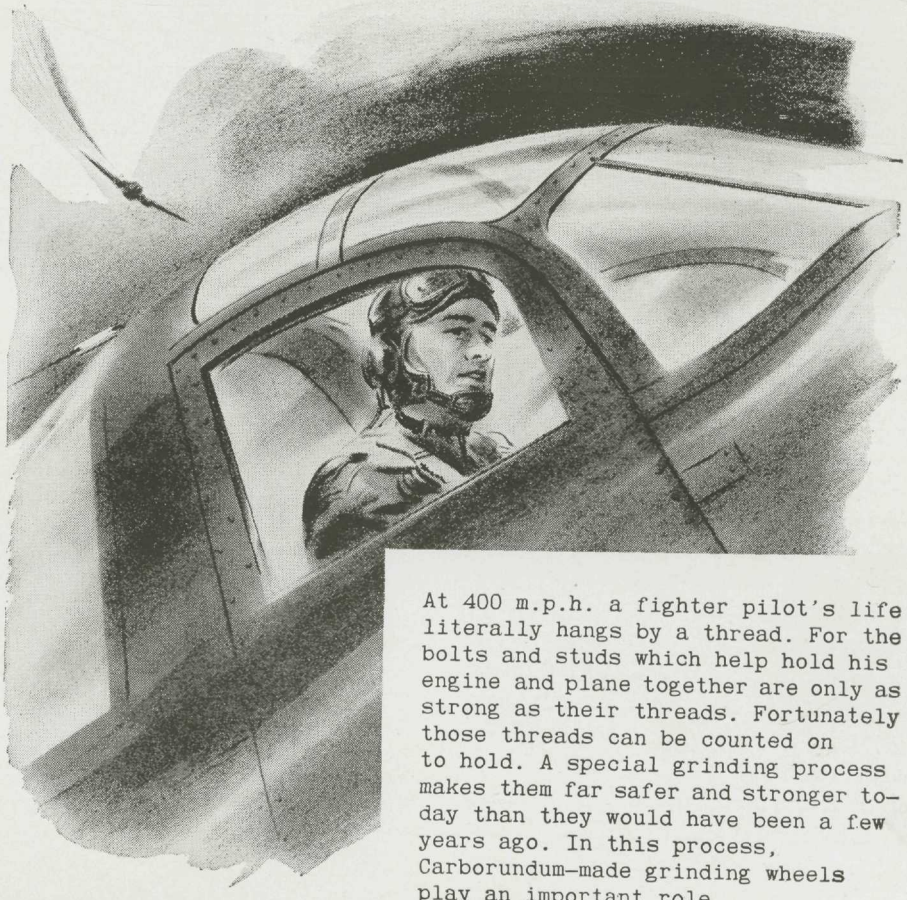
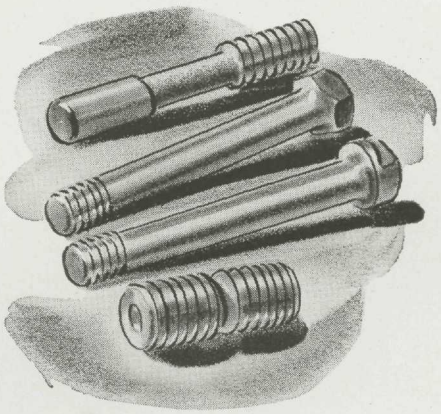
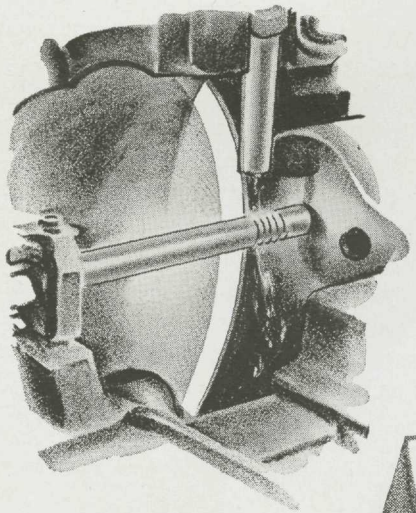
# He flies a plane held together with threads!



At 400 m.p.h. a fighter pilot's life literally hangs by a thread. For the bolts and studs which help hold his engine and plane together are only as strong as their threads. Fortunately those threads can be counted on to hold. A special grinding process makes them far safer and stronger today than they would have been a few years ago. In this process, Carborundum-made grinding wheels play an important role.

The method of grinding produces threads of almost unbelievable accuracy, free from microscopic checks and cracks which might cause failure under stress. This greater accuracy justifies a smaller safety factor, reducing weight of dead metal. And in most cases, production is speeded and costs reduced.





Thread grinding is typical of the many ways in which products and processes developed by Carborundum are serving America's war industry. When you get out in the field and encounter a production problem that abrasives might solve, write The Carborundum Company, Niagara Falls, New York.

**CARBORUNDUM**
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**ABRASIVE PRODUCTS**

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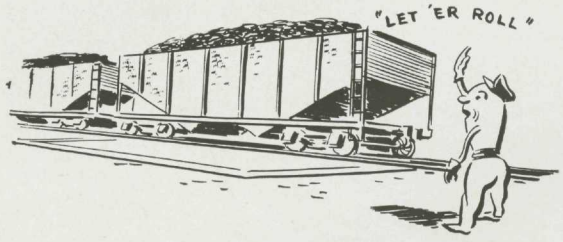
# G-E Campus News




## LET HER ROLL!

AT A PLANT of the Hanna Coal Company in Ohio, loaded coal cars are emptied by being rolled onto a rotary dump, fastened to the rails by a mechanical device, and then rolled upside down over a chute.

Now the dump is not supposed to revolve again until the empty car has been righted and sent on its way. But once in a while, when a car took a particularly long time to move off, the dump would revolve the next full car and derail the empty one.

The difficulty was remedied when a G-E photo-electric relay and light source were installed on opposite sides of the track at the "empty" end of the dump. Now the dump can't revolve so long as the light beam between the light source and the phototube in the relay is blacked out by the body of the empty car.

## NOTHING TO IT

HERE'S how the G-E supercharger works—à la Hollywood.

In Warner Brothers' "Desperate Journey," a Nazi officer asks a captive American flyer, "How do you manage to supercharge the engines at the extreme cold of these high altitudes?"

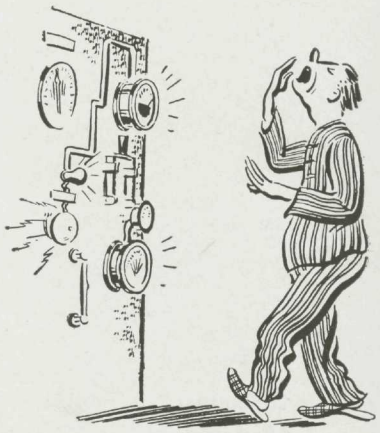
Johnny, the prisoner (played by Ronald Reagan) is crafty. He stalls a bit and then, assured that no one can overhear, he whispers, "It's done with a thermo-trockle."

"A what?" The awed Nazi leans closer.

"A thermotrockle amfilated through a daligoniter," explains Johnny, beginning to sketch with his left hand.

"You see, the dornadyne has a frenicoupling and the amacmeter prenulates the kinutaspel hepulace—here—and the—."

All of which thickens the plot, confuses the Nazi, and gives Johnny an opportunity to slug his guard and escape—without revealing a single military secret.



## TESTING

BACK when Herbert Hoover was in the White House, four specimen rods of an alloy steel used in steam turbines were imprisoned in a thermostatically controlled electric furnace at one of the G-E laboratories.

The purpose was to study the effect on the metal of prolonged high temperature and stress, in order to improve the design of the turbines.

Usually these "creep" tests are run for only 1000 to 3000 hours, but the engineers never took these four specimens out of the furnace until the other day—thus obtaining what they believe to be the first data based on a 100,000-hour test.

Throughout the 100,000 hours an ingenious alarm system guarded the specimens. In the event of trouble, a red light would flash and a bell would ring, summoning a watchman who could get one of the engineers out of bed to remedy the situation.